

C-5.2 Explain the behaviors of gas; the relationship among pressure, volume, and temperature; and the significance of the Kelvin (absolute temperature) scale, using the kinetic-molecular theory as a model.

Revised Taxonomy Levels 2.7 B Explain conceptual knowledge

Students did not address this concept in physical science

It is essential for students to

- ❖ Use the Kinetic Molecular Theory as a model to explain the relationship between, pressure, and volume in a gas sample.
- ❖ Explain the significance of the absolute temperature scale in terms of the Kinetic Molecular Theory.
 - Explain the relationship between temperature and average kinetic energy.

Assessment

The verb, explain means that the major focus of assessment should be for students to “construct a cause and effect model”. In this case, assessments will ensure that students can use the Kinetic Molecular Theory as a model for the behavior of gasses. Because the indicator is written as conceptual knowledge, assessments should require that students understand the “interrelationships among the basic elements within a larger structure that enable them to function together.” In this case, assessments must show that students can construct a cause and effect statement relating how each variable, (pressure, volume, and temperature), effects each of the others.